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THE FORTY-NINTH PARALLEL

BY

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THE FORTY-NINTH PARALLEL

IN the present paper the story of the forty-ninth parallel west of the Rocky Mountains will be told. By Article II of the Convention Oct. 20, 1818, between Great Britain and the United States, the forty-ninth parallel became the boundary line from the Lake of the Woods to the "Stony Mountains," as the Rocky Mountains were formerly called. West of the latter, and to the waters of the Pacific ocean the country was "free and open" to both parties for a period of ten years. By the Convention of Aug. 6, 1827, the period was "indefinitely extended and continued in force." In order to understand clearly what led to the Treaty of June 15, 1846, between Great Britain and the United States, whereby the forty-ninth parallel became the boundary line west of the Rocky Mountains, it is necessary to give a brief historical review of what had been done in discovery, in exploration, and in occupation, so that we may have a fair perspective of the claims of the contending nations. Although Balboa was the first to sight the Pacific in 1513 from Darien, Drake was the first to proceed up the coast in 1579 to latitude 43 degrees. It was nearly a century later before the Spaniard Perez reached as far as 54 degrees. Then follow the memorable explorations of the world's greatest navigator—Captain Cook—who in 1778 explored the Pacific coast northward from 43 degrees, through Bering's Straits, to latitude 70° degrees. Trouble arose between the Spanish and British on the Pacific coast, and by the Nootka Convention of 1790, Spain was practically eliminated as far as territory now under discussion is concerned. The man that left an imperishable monument on the Pacific coast by the accuracy of his survey work was Captain George Vancouver, who had served under Captain Cook. Vancouver's work covered the years 1792–3–4. It is strange that Vancouver missed the discovery of the mouth

of the Columbia river, which discolours the water of the ocean for miles and miles. This was reserved for the American, Captain Gray, in 1792, in his ship "Columbia," whence the name of the river. This discovery was one of the important points upon which later the United States based their claim to the country which the river drains Captain Gray did not ascend the river; but this was subsequently done by Lieut. Broughton, under Vancouver's instructions. Mackenzie, the discoverer of the great river bearing his name, in 1793, made his way through the interior of the continent, in behalf of the Northwest Company, the great rival of the Hudson's Bay Company, to the Pacific in about latitude 52 degrees. President Jefferson followed up the "Louisiana" purchase by sending an expedition under Lewis and Clark (1804–1806) to explore the territory north of the then Spanish territory of California and west of the Rocky Mountains, the "Oregon Country" as it was afterwards called. Lewis and Clark penetrated through the Rocky Mountains and descended the Columbia, whereby the United States added another claim, and a strong claim, to the territory subsequently in dispute. In 1808 Astor founded the American Fur Company, and three years later the Pacific Fur Company, a branch of the former, which was followed by the founding of Astoria at the mouth of the Columbia.

The Northwest Company was busy with exploration too in the interest of their fur trade. In 1808 Simon Fraser descends the river that now bears his name, to the sea; and similarly David Thompson, who also has a river to his name, descends in 1811 the Columbia to the Pacific. We see how year by year British and American claims are made by exploration and occupation. A blast of the war of 1812 even reached the Pacific coast. In 1813 Astoria was discreetly sold to the Northwest Company and a month later was taken possession of by a British vessel and its name changed to Fort George, but it was restored in 1818. In the following year Spain waived her claim to the north of 42 degrees in favour of the United States. The bitter rivalry that had

existed between the Hudson's Bay Company and the North-west Company, and which had cost many lives, was brought to a close by the amalgamation or absorption of the latter company by the former in 1821. The fur trade was now vigorously pushed in the far west, and in 1824 Chief Factor J. McLaughlin built Fort Vancouver on the lower Columbia, near the mouth of the Willamette; and this was for years the centre of trade and of authority, which the Hudson's Bay Company knew so well to wield. Russia had been active on the northwest coast of America for many years; her explorations were exclusively in the interest of the fur trade. Under Article III of the Convention of 1824 between Russia and the United States, Russia renounced all claims to territory south of 54 degrees, 40 minutes. Up to this time and for a few years more the strongest claim of Great Britain was that of occupation, for there were few Americans in the territory. The advent of four Indian chiefs from the Oregon country in St. Louis in 1832 stirred the missionary zeal for a new field of labour. The fertility of the Columbia valley, the wealth of the forests, the salubrity of the climate, became known in the east, and slowly a stream of immigration set in. As early as 1841 the Americans in Oregon began to feel the need of some form of civil government, other than that meted out by the Hudson's Bay Company, so that two years later we find a provisional government organized. Year by year the American immigration increased, till in 1845 some 3,000 arrived from the Missouri and Mississippi valleys. The Americans had undoubtedly possession of the territory now, more especially of the Columbia valley, and it was obvious that the day of settlement of adjustment of rival claims was at hand. Matters were somewhat aggravated by the democratic slogan in the presidential campaign of 1844 of "Fifty-Four or Fight." This meant up to the southern limit of the Russian possessions referred to in the Convention of 1824. The slogan served the Democratic party well, for Polk was elected President. Well, they didn't get fifty-four forty, nor did they fight. To the former the Americans had

absolutely no claim; and for the latter common sense stood them in good stead.

Negotiations were now set on foot which culminated in the Treaty of June 15, 1846, already referred to, whereby the forty-ninth parallel is continued westward from the Rocky Mountains "to the middle of the channel which separates the continent from Vancouver's Island," as the boundary line. The boundary line was now defined on paper, but it was not until ten years later—on Aug. 11, 1856—that Congress authorized the appointment of a commission which with a similar commission to be appointed by Great Britain, was to carry out the provisions of Article I of the above Treaty.

Archibald Campbell was appointed the United States Commissioner and Col. J. S. Hawkins the British Commissioner, and Major J. G. Parke and Capt. R. W. Haig were appointed the respective astronomers. Field operations were begun in 1857 and concluded in 1861. Although the survey was completed late in 1861 it was not until May 7, 1869, that the final report was signed at Washington by the two commissioners. Here begins the gist and romance of the story of the survey of the forty-ninth parallel which it is intended to tell. It should be observed that the observations of the two commissions were made with the utmost attainable precision, and are comparable with the best field work of to-day. The position of the parallel in the 410 miles of its length was determined from twenty-eight astronomical stations, eleven of which were established by the British Commission, fourteen by the United States Commission, and three by joint observations. The total expense of the United States commission was approximately $600,000, equivalent to about $1,460 per mile. We may assume that the expense of the British commission was about the same, although the figures are not available. The boundary line ran across a wild, mountainous, and generally forested country with no population save in isolated spots. The boundary line was not opened out, but only at the astronomic stations on the parallel short vistas were cut in the woods. However, in the

more or less open country lying between the Similkameen and the Columbia, a distance of 96 miles, the commissioners decided to connect the astronomic stations by straight lines with stone monuments (pyramids) at suitable intervals. This was done and these 96 miles were the only part of the boundary that was continuously laid down and marked on the ground. For some years this marked boundary line lay in solitude; but in time squatters and settlers began to occupy lands on both sides of the boundary line. They found in places three lines cut through the woods, as well as two sets of stone cairns, which naturally left them in a quandary as to where the definite boundary line was. Where is the boundary? and which line is it? were questions that unexpectedly presented themselves.

Settlers on the Canadian side applied to the Provincial Government at Victoria for the necessary information. But none could be supplied from that source. That government referred the question to the federal authorities at Ottawa, but here, too, no records were available. It seemed obvious that it would only be necessary to write to London to obtain the desired information and a copy of the final report of the survey of 1857–1861. Now the extraordinary thing happened. This final report with the necessary data of the survey was not to be found in London. Time and again search was made by different persons for the missing documents, but all to no avail. To add to the remarkable situation, the duplicate final report was not to be found in any of the government archives in Washington. Does history record any similar circumstances? Two governments are engaged for years on an expensive international work, a boundary survey; the respective commissioners sign joint final reports and transmit them to their respective governments; and the reports are nowhere to be found—apparently vanished from the face of the earth! The apparently impossible had happened, and the outlook was that in the near future a new survey under another international commission would have to be made.

Such was the situation in 1898 when the writer was sent by the Dominion Government to London and St. Petersburg (Petrograd) on a special mission, in which was included the obtaining of information regarding the records and final report of the above survey. All the offices in London were visited in which there was the faintest likelihood that the records might be stored, but without result, and no one seemed to be able to give any assistance. It was the writer's first visit to Europe, and naturally a visit was paid to the Royal Observatory at Greenwich, as he was astronomer for the Dominion Government. By chance his eye caught the initials B. N. A. on some boxes on top of the library shelves. Like a flash those letters interpreted themselves as standing for "British North America." At his request the boxes were taken down, the dust of years removed, and in them lay the long-lost records of the international survey of the forty-ninth parallel.

The long lost documents had been found, and their precious contents were to reveal and answer those long unanswered questions of international import. The find meant the saving to Canada and to the United States of the great expense of another international boundary survey. The final report, dated May 7, 1869, and jointly signed by the two commissioners, together with other official correspondence pertaining to the boundary, has since been printed by the office of Chief Astronomer, Department of the Interior, Ottawa. With the material found it was now possible to understand all the operations of the survey, the method of placing the monuments, the reason for the existence of diverging lines cut through the forest, and the meaning of duplicate cairns. The occurrence of the last was due to the non-removal by the men, as instructed, of those cairns which no longer indicated the position of the accepted boundary line.

In order to understand how and why unavoidable difficulties arose in making the demarcation of the boundary line continuous, it is necessary to say a word about astronomical observations for latitude. The zero from which

latitude observations are made is indicated by the "level," and its position in turn is the resultant of all the gravitational forces acting on it; that is, the distribution of matter, visible and invisible, about a station determines the position of the "bubble" or "level," the zero of observation. Mountainous regions generally show "deflections of the plumb-line," as the deviation of the zero is termed, due to the anomalous distribution of matter. Were there no anomalies it would be possible theoretically, after establishing an individual point on any parallel of latitude, to establish other points on the parallel from it. Or we may say that, if two points are established in latitude, the direction a straight line must take from the one point to the other is simply a matter of computation.

In the present case the effect of this condition was markedly shown in the 96 miles from the Similkameen to the Columbia. The astronomic stations in this section were, in order from west to east: Similkameen U. S.; Osoyoos Br.; First Crossing or Newhoilpitkw U. S.; Second Crossing, or Inshwointum Br.; Third Crossing, or Statapoosten U. S.; Columbia Br. and U. S. It will be remembered that it was agreed to project the boundary line a short distance east and west from each astronomic station. This was done. From the British station at Osoyoos, the British commission ran lines —cutting the forest where encountered—west and east to meet the United States astronomic stations respectively at Similkameen and at First Crossing; and similarly from the Second Crossing again to the First Crossing and eastward to the Third Crossing. The not-unexpected happened—the lines did not meet, owing to "local deflection of the plumb line," although the discrepancies were greater than expected. At Similkameen the line came 509 feet north of the United States station; at the First Crossing the Osoyoos line came 364 feet north of the United States station, but the line projected from the Second Crossing westward came 300 feet south of this same United States station; i.e., the two British lines run from British stations were 664 feet apart. This was

not attributable to any error in the work, for the work was well done, but to the inherent idiosyncrasies of the environing mass distribution. Because of this operation of connecting, or trying to connect, the astronomic stations there were now two lines cut at each of the three United States stations. Things could not be left in this condition. After discussion by the officers of the two commissions on March 4, 1861, "it was agreed that a mean parallel should be adopted, and a new line run and marked from the Similkameen to Statapoosten." And this new line was run and marked by the United States commission. Thus in places a third line was cut; this was the definitive line. This explains why on the ground several vistas through the woods existed side by side. From the position of the mean parallel at Statapoosten the British commission subsequently ran the line to connect with the astronomic stations on the Columbia. Here, too, the line suffered a deflection to the north, namely of 212 feet. As already mentioned the cairns should all have been removed from the preliminary lines joining astronomic stations, and only those left which were on the final line. The circumstance that this was not done added to subsequent mystification, but the finding of the original records and final report cleared up everything.

It may be interesting to continue the story and recount what happened in Washington. Marcus Baker, cartographer, made a report on June 9, 1900, to the director of the U. S. Geological Survey on this boundary line. He searched the various departments in Washington for documents pertaining to the survey and had personal interviews and correspondence with men then living who had been officially connected with the boundary survey, with a view to throwing light, if possible, on "the most important document of all," the final report, but failed, as had Captain George M. Wheeler, U. S. A., in a previous search in 1889. Baker adds to the above: "The search above mentioned I have now repeated and with like result. The manuscript has not been found." Further on Baker writes: "But the report, unfortunately, was not

published, and the manuscript has for many years been lost to view. Its whereabouts are still unknown. The reason it was not published, I am informed, is that Mr. Fish, Secretary of State at that time, deemed its publication too expensive. The war had brought a mountain of debt, and under these conditions he refused to sanction so costly a publication."

Such were the vicissitudes of the 1857–61 survey. Within recent years the whole boundary line, from Point Roberts on the Gulf of Georgia to the summit of the Rocky Mountains, has been opened up, a "sky line" cut through the forests, and additional monuments erected by the joint action of the United States and Canada.

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